

# **FUJITSU Software**

# **PRIMECLUSTER GD I/O Monitor Option**

# **4.5A10**

A decorative horizontal band with a red-to-dark-red gradient, featuring abstract white and light red curved lines and glowing points.

## **Installation Guide**

Linux

J2UL-2273-02ENZ0(00)  
August 2018

# Preface

---

## Purpose

This manual explains how to install PRIMECLUSTER GD I/O Monitor Option.

## Target Readers

This manual is written for people who will install this product.

It is strongly recommended that you read the Software Release Guide before using this manual.

When setting up systems, it is assumed that readers have the basic knowledge required to configure the servers, storage and network devices to be installed.

## Organization

This manual consists of four chapters, and appendices. The contents of these chapters, the appendices are listed below.

Title	Description
Chapter 1 Program components	Explains the packages of which this product is composed.
Chapter 2 Operation Environment	Explains the operational environment of this product.
Chapter 3 Installation	Explains how to install this product.
Chapter 4 Uninstallation	Explains how to uninstall this product.
Appendix A Troubleshooting	Explains how to address problems that occur.

## Notational Conventions

The notation in this manual conforms to the following conventions.

- References and character strings or values requiring emphasis are indicated using double quotes ( " ).
- Text to be entered by the user is indicated using bold text.
- Variables are indicated using italic text.

The following abbreviation is used in this manual:

- Global Disk Services is abbreviated as GDS.
- PRIMEQUEST 3000/2000 Series is abbreviated as PRIMEQUEST.

## Export Administration Regulation Declaration

Exportation/release of this document may require necessary procedures in accordance with the regulations of your resident country and/or US export control laws.

## Trademark Information

- Linux is a registered trademark of Linus Torvalds.
- Red Hat is a registered trademark of Red Hat, Inc. in the U.S. and other countries.
- Other trademarks and registered trademarks appearing in this manual are the trademarks or registered trademarks of their owners.

Information in this manual is subject to change without notice.



The latest manuals are available at

Date of publication and edition

Date of publication and edition	Manual code
August 2018, First edition	J2UL-2273-02ENZ0(00)/J2UL-2273-02ENZ2(00)

Copyright notice

All Rights Reserved, Copyright (C) FUJITSU LIMITED 2018

## Revision History

---

First edition

# Contents

---

Chapter 1 Program components.....	1
Chapter 2 Operation environment.....	2
2.1 Software environment.....	2
2.2 Hardware environment.....	2
2.3 Static disk resources.....	2
2.3.1 Required disk space.....	2
2.3.2 Required work area.....	3
2.4 Dynamic disk resources.....	3
2.4.1 Required disk space.....	3
2.5 Required memory.....	3
Chapter 3 Installation.....	4
3.1 Preparations.....	4
3.2 Installation.....	4
3.3 Environment configuration.....	5
Chapter 4 Uninstallation.....	6
4.1 Uninstallation.....	6
Appendix A Troubleshooting.....	8
A.1 When segmentation violation causes an installation failure.....	8

# Chapter 1 Program components

The unit of the program that composes the system is called a package.  
This chapter explains about the packages of which this software is composed.

No.	Component	Package	Version	Function
1	Global Disk Services(GDS) I/O Monitor Option	FJSVsdX-iom	4.5.0	I/O response time assurance function

# Chapter 2 Operation environment

This chapter explains the operation environment of this software.

## 2.1 Software environment

### 1. Required basic software

To use this software, install either of the following basic softwares.

No.	Basic Software	Remark
1	Red Hat Enterprise Linux 6.5 (for Intel64) or later	For details, see the installation guide of the below required PRIMECLUSTER software.
2	Red Hat Enterprise Linux 7.2 (for Intel64) or later	For details, see the installation guide of the below required PRIMECLUSTER software.

### 2. Required software

To use this software, the following software product is required.

No.	Software	Package	Version and/or level	Remark
1	PRIMECLUSTER GD, PRIMECLUSTER Enterprise Edition, or PRIMECLUSTER HA Server	FJSVsdx-bas	4.5.1	
		kmod-FJSVsdx-drvcore	4.5.1	

### 3. Exclusive software

None.

### 4. Required patches

None.

## 2.2 Hardware environment

The following hardware requirements must be satisfied to operate this software.

### 1. Memory

128MB or more memory is required.

### 2. Required hardware

PRIMEQUEST 3000/2000 Series

## 2.3 Static disk resources

This section explains static disk space requirements for this software.

### 2.3.1 Required disk space

The following table lists the disk space requirements for installing this software. If necessary, expand the size of the relevant file systems.

No.	Directory	Disk space (in MB)	Remark
1	/usr	0.1	Only when Red Hat Enterprise Linux 7 (for Intel64) is used.
2	/etc	0.1	Only when Red Hat Enterprise Linux 6 (for Intel64) is used.
3	/etc/opt	0.1	

## 2.3.2 Required work area

---

None.

## 2.4 Dynamic disk resources

---

This section explains dynamic disk space requirements for this software.

### 2.4.1 Required disk space

---

When this software is operated in the following environment, the additional disk space shown below is required for each directory as well as the disk space required for installing this software as described in "2.3 Static disk resources". If free space is insufficient, expand the size of the relevant file system.

No.	Directory	Disk space (in MB)	Operation
1	/var/opt	4.3	If this software is installed.

## 2.5 Required memory

---

The following table shows the memory required when this software is operated in the following environment.

No.	Memory (in MB)	Operation
1	$15.1\text{MB} + (0.003\text{MB} \times \text{Number of disks}) + (390\text{MB} \times \text{Number of volumes})$	If using the I/O Response Time Assurance Function.  The number of disks and number of volumes in the formula in the left are the number of disks and number of volumes of the shared class and the local class used to set the I/O Response Time Assurance Function.
2	$220.9\text{MB} + (0.003\text{MB} \times \text{Number of disks}) + (390\text{MB} \times \text{Number of volumes})$	If using the I/O Response Time Assurance Function.  The number of disks and number of volumes in the formula in the left are the number of disks and number of volumes of the root class used to set the I/O Response Time Assurance Function.

# Chapter 3 Installation

This chapter explains the installation of this software.

If the PRIMECLUSTER GD basic packages, FJSVsdx-bas and kmod-FJSVsdx-drvcore are not installed, the product cannot be installed. All packages are included in No.1 of "2) Required software" of "2.1 Software environment".

To use this product on a cluster system, install it on all the cluster node.

## 3.1 Preparations

### 1. Prerequisites

Make sure that the disk has enough free space to install this software. For the disk size that this software uses, see "2.3 Static disk resources". If free space is insufficient, re-configure the disk partitions.

### 2. Saving the configuration file

None.

### 3. Time required

It takes approximately 3 minutes to install this software.

## 3.2 Installation

### 1. Login to the system and become the root user.

```
$ su <Return>
Password:password <Return>
```

### 2. Boot the system in single-user mode.

[Red Hat Enterprise Linux 6]

```
# shutdown now <Return>
```

[Red Hat Enterprise Linux 7]

### 1. Check the default target.



- The default target ([multi-user.target] in the following example) varies depending on the system.
- Put down the default target before installation as you can restore the system to the state prior to installation later.

```
# systemctl get-default <Return>
multi-user.target
```

### 2. The default target changes in single-user mode.

```
# systemctl set-default rescue.target <Return>
```

### 3. Restart the system.

```
# shutdown -r now <Return>
```



3. Insert the CD and mount the CD-ROM device.

```
# mount /media/cdrom <Return>
```

4. Install the packages by executing the rpm(8) command.

[Red Hat Enterprise Linux 6 (for Intel64)]

```
# cd <CDROM_DIR>/Linux/products/GDS_IOMonitor <Return>
# rpm -ihv FJSVsdx-iom-4.5.0-X.rhel6_x86_64.rpm <Return>
```

[Red Hat Enterprise Linux 7 (for Intel64)]

```
# cd <CDROM_DIR>/Linux/products/GDS_IOMonitor <Return>
# rpm -ihv FJSVsdx-iom-4.5.0-X.rhel7_x86_64.rpm <Return>
```



The number entered for 'X' corresponds to that of the package.

Replace it with the release number of rpm stored on the CD.

5. Eject the CD.

```
# cd / <Return>
# umount /media/cdrom <Return>
# eject <Return>
```

6. Restart the system by executing the "shutdown(8)" command.

[Red Hat Enterprise Linux 6]

```
# shutdown -r now <Return>
```

[Red Hat Enterprise Linux 7]

The default target changes in multi-user mode.

```
# systemctl set-default multi-user.target <Return>
```

Restart the system.

```
# shutdown -r now <Return>
```

7. Download patch(es)

Download the latest patch(es) for this software and update information file from UpdateSite.

8. Apply the patch(es) for this software.

For installation instructions and points of concern, etc., refer to the update information file of each patch.

## 3.3 Environment configuration

---

Refer to "PRIMECLUSTER Global Disk Services Configuration and Administration Guide."

# Chapter 4 Uninstallation

This chapter explains the uninstallation of this software.

Uninstall this product from all of the cluster nodes when using this software in a cluster system.

## 4.1 Uninstallation

The following explains the procedure on how to uninstall the software.

1. Execute `sdxinfo -I` command and check whether a class with the I/O Response Time Assurance Function activated exists. "on" is shown in the MODE field of the class if the I/O Response Time Assurance Function is activated for the class.

```
# sdxinfo -I <Return>
CLASS  MODE TIME PANIC
-----
<class>  off  *   *
<class>  on   77  on
```

2. If a class with the I/O Response Time Assurance Function activated exists, use the `sdxattr -C` command to deactivate the function.

```
# sdxattr -C -c <class> -a iotimeout=off <Return>
```

3. Login to the system as the root user.

```
$ su <Return>
Password:password <Return>
```

4. Change the system to single-user mode.

[Red Hat Enterprise Linux 6]

```
# shutdown now <Return>
```

[Red Hat Enterprise Linux 7]

1. Check the default target.



- The default target ([multi-user.target] in the following example) varies depending on the system.
- Put down the default target before installation as you can restore the system to the state prior to installation later.

```
# systemctl get-default <Return>
multi-user.target
```

2. The default target changes in single-user mode.

```
# systemctl set-default rescue.target <Return>
```

3. Restart the system.

```
# shutdown -r now <Return>
```

5. Remove the package using the `rpm(8)` command.

```
# rpm -e FJSVsdx-iom <Return>
```

6. Reboot the system by executing the shutdown(8) command.

[Red Hat Enterprise Linux 6]

```
# shutdown -r now <Return>
```

[Red Hat Enterprise Linux 7]

The default target changes in single-user mode.

```
# systemctl set-default rescue.target <Return>
```

Restart the system.

```
# shutdown -r now <Return>
```

# Appendix A Troubleshooting

This chapter explains how to address problems that occur.

## A.1 When segmentation violation causes an installation failure

If segmentation violation is due to the rpm(8) command, take the following corrective steps. If the problem still remains unresolved, contact Fujitsu customer support engineers.

1. Reboot the system by executing the shutdown(8) command.

```
# shutdown -r now <Return>
```

2. Delete PRIMECLUSTER GD I/O Monitor Option from the system according to "[4.1 Uninstallation](#)".
3. Execute the following command.

```
# rpm --rebuilddb <Return>
```

4. Install PRIMECLUSTER GD I/O Monitor Option again.